PORSF
11.3.18.1 V8



# Material Safety Data Sheet

## 1. Chemical product and company identification

| | |
|---|---|
| **Product name** | ARCO Jet Fuel A |
| **MSDS #** | APPC463 |
| **Historic MSDS #:** | APPC463 (v.9) Arco |
| **Code** | APPC463 |
| **Product use** | Fuel. |
| **Supplier** | BP West Coast Products LLC<br>6 Centerpointe Drive<br>La Palma, CA 90623<br>U.S.A. |
| **EMERGENCY HEALTH INFORMATION:** | 1 (800) 447-8735<br>Outside the US: +1 703-527-3887 (CHEMTREC) |
| **EMERGENCY SPILL INFORMATION:** | 1 (800) 424-9300 CHEMTREC (USA) |
| **OTHER PRODUCT INFORMATION** | 1 (866) 4 BP - MSDS<br>(866-427-6737 Toll Free - North America)<br>email: bpcares@bp.com |

## 2. Composition/Information on ingredients

| Ingredient name | CAS # | % by weight |
|---|---|---|
| Straight run kerosine | 8008-20-6 | 95 - 100 |
| naphthalene | 91-20-3 | 1 - 5 |
| xylene | 1330-20-7 | 0.1 - 1 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.1 - 1 |
| Cumene | 98-82-8 | 0.1 - 1 |
| Ethylbenzene | 100-41-4 | 0.1 - 1 |

## 3. Hazards identification

**Physical state** Liquid.

**Color** Colorless to light yellow.

**Emergency overview** WARNING!

COMBUSTIBLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
HARMFUL IF SWALLOWED.
ASPIRATION HAZARD.
HARMFUL OR FATAL IF LIQUID IS ASPIRATED INTO LUNGS.
CAUSES SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS, AND NAUSEA, AND MAY LEAD TO UNCONSCIOUSNESS. CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Do not ingest. Avoid prolonged contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**Routes of entry** Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential health effects**

| | |
|---|---|
| **Eyes** | Slightly irritating to the eyes. |
| **Skin** | Causes skin irritation. |
| **Inhalation** | May cause respiratory tract irritation. Inhalation causes headaches, dizziness, drowsiness, and nausea, and may lead to unconsciousness. See toxicological Information (section 11). |
| **Ingestion** | Aspiration hazard if swallowed – harmful or fatal if liquid is aspirated into lungs. Ingestion may cause gastrointestinal irritation and diarrhea. See toxicological Information (section 11). |
| **Medical conditions aggravated by over-exposure** | None identified. |

**See toxicological Information (section 11).**

## 4. First aid measures

| | |
|---|---|
| **Eye contact** | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs. |
| **Skin contact** | Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops. |
| **Inhalation** | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| **Ingestion** | If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed- can enter lungs and cause damage. Get medical attention immediately. |

## 5. Fire-fighting measures

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|---|---|
| **Flammability of the product** | Combustible liquid. |
| **Auto-ignition temperature** | 210 °C |
| **Flash point** | >37.78 °C (Closed cup) Tagliabue. |
| **Explosion limits** | Lower: 0.7 %<br>Upper: 5 % |
| **Products of combustion** | carbon oxides (CO, $CO_2$) (carbon monoxide, carbon dioxide), sulfur oxides ($SO_2$, $SO_3$ etc.), nitrogen oxides (NO, $NO_2$ etc.). |
| **Unusual fire/explosion hazards** | Combustible liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.<br>Explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. |
| **Fire-fighting media and instructions** | In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. Do not use water jet. DO NOT FIGHT FIRE WHEN IT REACHES MATERIAL. Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. |
| **Protective clothing (fire)** | Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. |
| **Special remarks on fire hazards** | Do not use water jet. |

## 6. Accidental release measures

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| **Personal precautions** | Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures"). Do not touch or walk through spilled material. |
| **Environmental precautions and clean-up methods** | If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal information. |
| **Personal protection in case of a large spill** | Splash goggles. Chemical resistant protective suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |

## 7. Handling and storage

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|---|---|
| **Handling** | Aspiration hazard if swallowed- can enter lungs and cause damage. Never siphon by mouth. Do not ingest. If ingested do not induce vomiting. When using do not eat, drink or smoke. Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Avoid breathing vapor or mist. Use only with adequate ventilation Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. |
| **Storage** | Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Store and use only in equipment/containers designed for use with this product. |

## 8. Exposure controls/personal protection

**Occupational exposure limits**

| Ingredient name | Occupational exposure limits |
|---|---|
| Straight run kerosine | **ACGIH TLV (United States, 1/2006). Skin**<br>TWA: 200 mg/m³ 8 hour(s). |
| naphthalene | **ACGIH TLV (United States, 1/2006).**<br>STEL: 79 mg/m³ 15 minute(s).<br>STEL: 15 ppm 15 minute(s).<br>TWA: 52 mg/m³ 8 hour(s).<br>TWA: 10 ppm 8 hour(s).<br>**OSHA PEL (United States, 8/1997).**<br>TWA: 50 mg/m³ 8 hour(s).<br>TWA: 10 ppm 8 hour(s). |
| xylene | **ACGIH TLV (United States, 1/2006).**<br>STEL: 651 mg/m³ 15 minute(s).<br>STEL: 150 ppm 15 minute(s).<br>TWA: 434 mg/m³ 8 hour(s).<br>TWA: 100 ppm 8 hour(s).<br>**OSHA PEL (United States, 8/1997).**<br>TWA: 435 mg/m³ 8 hour(s).<br>TWA: 100 ppm 8 hour(s). |
| 1,2,4-Trimethylbenzene | **ACGIH TLV (United States, 1/2006).**<br>TWA: 123 mg/m³ 8 hour(s).<br>TWA: 25 ppm 8 hour(s). |
| Cumene | **ACGIH TLV (United States, 1/2006).**<br>TWA: 50 ppm 8 hour(s).<br>**OSHA PEL (United States, 8/1997). Skin** |

| | |
|---|---|
| | TWA: 245 mg/m³ 8 hour(s).<br>TWA: 50 ppm 8 hour(s). |
| Ethylbenzene | **ACGIH TLV (United States, 1/2006).**<br>STEL: 125 ppm 15 minute(s).<br>TWA: 100 ppm 8 hour(s).<br>**OSHA PEL (United States, 8/1997).**<br>TWA: 435 mg/m³ 8 hour(s).<br>TWA: 100 ppm 8 hour(s). |
| **Control Measures** | Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. |
| **Hygiene measures** | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. |
| **Personal protection** | |
| **Eyes** | Avoid contact with eyes. Safety glasses with side shields. |
| **Skin and body** | Avoid contact with skin and clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil. |
| **Respiratory** | Use only with adequate ventilation Avoid breathing vapor or mist. If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.<br><br>CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator. |
| **Hands** | Wear gloves that cannot be penetrated by chemicals or oil.<br>Recommended: nitrile gloves.<br>The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.<br><br>Consult your supervisor or S.O.P. for special handling directions |

**Consult local authorities for acceptable exposure limits.**

## 9. Physical and chemical properties

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|---|---|
| **Physical state** | Liquid. |
| **Odor** | Kerosine (petroleum) |
| **Color** | Colorless to light yellow. |
| **Heat of combustion** | Not available. |
| **Boiling point / Range** | 143.89 to 300 °C |
| **Melting point / Range** | -51.111 to -40 °C |
| **Specific gravity** | 0.81 |
| **Vapor pressure** | <0.013 kPa (<0.1 mm Hg) |
| **Solubility** | negligible |
| **Viscosity** | Kinematic: 2 mm²/s (2 cSt) at 40°C |

## 10. Stability and reactivity

| | |
|---|---|
| **Stability and reactivity** | Stable under recommended storage and handling conditions (See Section: "Handling and storage"). |
| **Conditions to avoid** | Keep away from heat, sparks and flame. Avoid all possible sources of ignition (spark or flame). |
| **Incompatibility with various substances** | Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis. halogenated compounds. |
| **Hazardous decomposition products** | Products of combustion: carbon oxides (CO, $CO_2$) (carbon monoxide, carbon dioxide), sulfur oxides ($SO_2$, $SO_3$ etc.), nitrogen oxides (NO, $NO_2$ etc.). |
| **Hazardous polymerization** | Will not occur. |

## 11. Toxicological information

**Acute toxicity**

Aspiration of this product into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Do not siphon by mouth.

**Chronic toxicity**

**Carcinogenic effects**

CONTAINS MATERIAL WHICH CAN CAUSE CANCER.
Risk of cancer depends on duration and level of exposure.
Classified 2B (Possible for human.) by IARC: [naphthalene]
Classified 2 (Reasonably Anticipated To Be Human Carcinogens.) by NTP: [naphthalene]

**Mutagenic effects**

No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.

**Reproductive effects**

No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.

**Teratogenic effects**

No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

**Other chronic toxicity data**

Naphthalene has been reported to cause developmental toxicity in mice after oral exposure to relatively high dose levels, but developmental toxicity was not observed in NTP (National Toxicology Program) sponsored studies in rats and rabbits. Ingestion or inhalation of naphthalene can result in hemolysis and other blood abnormalities, and individuals (and infants) deficient in glucose-6-phosphate dehydrogenase may be especially susceptible to these effects. Inhalation of naphthalene may cause headache and nausea. Airborne exposure can result in eye irritation. Naphthalene exposure has been associated with cataracts in animals and humans.

From skin-painting studies of petroleum distillates of similar composition and distillate range, it has been shown that these types of materials often possess weak carcinogenic activity in laboratory animals. In these tests, the material is painted on the shaved backs of mice twice a week for their lifetime. The material is not washed off between applications. Therefore, there may be a potential risk of skin cancer from prolonged or repeated skin contact with this product in the absence of good personal hygiene. This particular product has not been tested for carcinogenic activity, but we have chosen to be cautious in light of the findings with other distillate streams.

Occasional skin contact with this product is not expected to have serious effects, but good personal hygiene should be practiced and repeated skin contact avoided. Animal studies with this material have resulted in moderate skin irritation following short-term exposure or prolonged/repeated exposure. Skin irritation and body weight loss were observed in 28 day dermal studies on this material in rats, but there were no systemic tissue changes characteristic of disease. Personal hygiene measures taken to prevent skin irritation are expected to be adequate to prevent risk of skin cancer.

This product has a sufficiently low vapor pressure to prevent a hazardous buildup of vapors unless the product is heated, used in a confined space with inadequate ventilation or misted. Inhalation of mist or high concentrations of vapors can produce dizziness, headache, and nausea and possibly irritation of the eye, nose and throat. In acute inhalation toxicity tests in rats, during exposure the material caused labored breathing, reduced activity and nasal discharge.

Materials of this type have been shown to produce kidney damage in male rats following prolonged

Inhalation exposures. Following extensive research, this effect appears to be unique to the male rat and is considered to be of little or no relevance in terms of human health risk.

Dermal and inhalation exposure to some jet fuel mixtures has been shown to reduce or inhibit certain indictors of immune function in mice. The relevance of these findings for humans is under investigation.

Diesel exhaust particulates have been classified by the National Toxicological Program (NTP) to be a reasonably anticipated human carcinogen. Exposure should be minimized to reduce potential risk.

## 12. Ecological information

**Ecotoxicity** No testing has been performed by the manufacturer.

**Soil/water partition coefficient ($K_{OC}$)** >3.5

## 13. Disposal considerations

**Waste information** Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.

Consult your local or regional authorities.

## 14. Transport information

**International transport regulations**

| Regulatory information | UN number | Proper shipping name | Class | Packing group | Label | Additional information |
|---|---|---|---|---|---|---|
| DOT Classification | UN1863 | FUEL, AVIATION, TURBINE ENGINE | 3 | III |  | Reportable quantity 100 lbs. (45.36 kg) |
| TDG Classification | UN1863 | FUEL, AVIATION, TURBINE ENGINE | 3 | III |  | Not determined. |
| IMDG Classification | UN1863 | FUEL, AVIATION, TURBINE ENGINE | 3 | III |  | Not determined. |
| IATA Classification | UN1863 | FUEL, AVIATION, TURBINE ENGINE | 3 | III |  | Not determined. |

## 15. Regulatory information

**U.S. Federal regulations** US INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) one-time export notification:: naphthalene

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ARCO Jet Fuel A : Fire hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313

| | Product name | CAS number | Concentration |
|---|---|---|---|
| Form R - Reporting requirements | naphthalene | 91-20-3 | 0 - 3 |
| | Ethylbenzene | 100-41-4 | 0 - 0.15 |
| Supplier notification | naphthalene | 91-20-3 | 0 - 3 |
| | Ethylbenzene | 100-41-4 | 0 - 0.15 |

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: naphthalene: 100 lbs. (45.36 kg); Ethylbenzene: 1000 lbs. (453.6 kg); xylene: 100 lbs. (45.36 kg); Cumene: 5000 lbs. (2268 kg);

**State regulations**

Massachusetts RTK:Straight run kerosine; naphthalene; xylene; 1,2,4-Trimethylbenzene; Cumene; Ethylbenzene
New Jersey:Straight run kerosine; naphthalene; xylene; 1,2,4-Trimethylbenzene; Cumene; Ethylbenzene
Pennsylvania RTK:Straight run kerosine (generic environmental hazard); naphthalene (environmental hazard, generic environmental hazard); xylene (environmental hazard, generic environmental hazard); 1,2,4-Trimethylbenzene (environmental hazard, generic environmental hazard); Cumene (environmental hazard, generic environmental hazard); Ethylbenzene (environmental hazard, generic environmental hazard)

**WARNING:** This product contains a chemical known to the State of California to cause cancer. naphthalene; Ethylbenzene

Prop 65 chemicals will result under certain conditions from the use of this material. For example, burning fuels produces combustion products including diesel exhaust, a Prop 65 carcinogen, and carbon monoxide, a Prop 65 reproductive toxin

**Inventories**

AUSTRALIAN INVENTORY (AICS): Listed on inventory.

CANADA INVENTORY (DSL): Listed on inventory.

CHINA INVENTORY (IECS): Listed on inventory.

EC INVENTORY (EINECS/ELINCS): In compliance.

JAPAN INVENTORY (ENCS): In compliance.

KOREA INVENTORY (ECL): Listed on inventory.

PHILIPPINE INVENTORY (PICCS): Listed on inventory.

## 16. Other Information

**Label requirements**

WARNING!

COMBUSTIBLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
HARMFUL IF SWALLOWED.
ASPIRATION HAZARD.
HARMFUL OR FATAL IF LIQUID IS ASPIRATED INTO LUNGS.
CAUSES SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS, AND NAUSEA, AND MAY LEAD TO UNCONSCIOUSNESS. CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

**HMIS® Rating :**

| | | |
|---|---|---|
| Health | 1 | * |
| Flammability | 2 | |
| Physical Hazard | 0 | |
| Personal protection | X | |

National Fire Protection Association (U.S.A.)


**History**

| | |
|---|---|
| **Date of issue** | 07/05/2006. |
| **Date of previous issue** | 05/23/2006. |
| **Prepared by** | Product Stewardship |

**Notice to reader**

*NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.*